Physical activity, cognitive performance, and academic achievement: an observational study in Dutch adolescents using accelerometers

Physical Activity, Cognitive Performance and Academic Achievement: an observational study in Dutch Adolescents using Accelerometers

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Abstract

Most studies on associations between physical activity and cognitive performance / academic achievement in adolescents used questionnaires to measure physical activity, which has several limitations. This study investigated the associations between both objectively (N = 328) and subjectively (N = 359) measured physical activity and cognitive performance / academic achievement in Dutch adolescents in grade 7 and 9, aged 11 to 17 years. Overall we found no association between physical activity and cognitive performance / academic achievement. However, exploratory analyses showed that objectively measured physical activity was negatively associated with academic achievement and mathematics performance in grade 7, but positively associated with mathematics performance in grade 9. In addition, the association between objectively measured physical activity and mathematics performance is more positive in girls than in boys. These results indicate that physical activity in adolescents is overall not associated with cognitive performance and academic achievement, however, academic year and sex may moderate the association between physical activity and academic achievement in adolescents.

Keywords

Accelerometry, Objectively measured physical activity, Executive functioning, School performance, Youth

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